



## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

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<b>(21) International Application Number:</b> PCT/IL00/00110 <b>(22) International Filing Date:</b> 22 February 2000 (22.02.00) <b>(30) Priority Data:</b> 60/121,239                      22 February 1999 (22.02.99)                      US <b>(71) Applicant (for all designated States except US):</b> YISSUM RESEARCH AND DEVELOPMENT COMPANY OF THE HEBREW UNIVERSITY OF JERUSALEM [IL/IL]; Jabotinsky Street 46, 91042 Jerusalem (IL). <b>(72) Inventors; and</b> <b>(75) Inventors/Applicants (for US only):</b> VAINSTEIN, Alexander [IL/IL]; Hanassi Harishron Street 42/6, 76303 Rehovot (IL). ZUKER, Amir [IL/IL]; Negba Street 32/18, 74040 Nes Ziona (IL). OVADIS, Marianna [IL/IL]; Hershenson Street 76/28, 76484 Rehovot (IL). <b>(74) Agent:</b> REINHOLD COHN AND PARTNERS; P.O. Box 4060, 61040 Tel Aviv (IL).		<b>(81) Designated States:</b> AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).  <b>Published</b> <i>Without international search report and to be republished upon receipt of that report.</i>

**(54) Title:** TRANSGENIC PLANTS AND METHOD FOR TRANSFORMING CARNATIONS

**(57) Abstract**

A method of transforming a carnation (*Dianthus L.*) plant genome with a DNA molecule. The method comprises (a) preparing stem explants from carnation cuttings; (b) wounding the explants by microprojectile bombardment; (c) cocultivating the wounded explants with *Agrobacterium* comprising the DNA molecule under defined conditions of exposure to dark followed by light; (d) excising shoots from the cultivated wounded explants and removing the leaves from the shoots; and (e) culturing the leaves to obtain transgenic shoots transformed with the DNA molecule. Also disclosed are a *rolC*-transgenic carnation with improved agronomic traits and enhancement of flower fragrance by antisense suppression of the flavonoid gene *flh*.

